

Environmental Assessment and Review Framework

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Draft

Proposed Multitranche Financing Facility Republic of the Philippines: Malolos-Clark Railway Project

ABBREVIATIONS

ADB	–	Asian Development Bank
CIA	–	Clark International Airport
CNC	–	certificate of non-coverage
CSC	–	construction supervision consultant
DAO	–	DENR Administrative Order
DED	–	detailed engineering design consultant
DENR	–	Department of Environment and Natural Resources
DOTr	–	Department of Transportation
EA	–	executing agency
EARF	–	environmental assessment and review framework
ECC	–	environmental compliance certificate
ECA	–	environmentally critical area
ECP	–	environmentally critical project
EIA	–	environmental impact assessment
EIS	–	environmental impact statement
EMA	–	external monitoring agency
EMB	–	environmental management bureau
EMP	–	environmental management plan
ESRD	–	Environment, social and ROW division of DOTr
GRM	–	grievance redress mechanism
IEE	–	initial environmental examination
IEEC	–	initial environmental examination checklist report
IEER	–	initial environmental examination report
LGU	–	local government unit
MCRP	–	Malolos-Clark Railway Project
MCR-PMO	–	MCRP Project Management Office
MFF	–	Multitranches financing facility
NSCR	–	North South Commuter Railway
NSRP	–	North South Railway Project
PEISS	–	Philippine Environmental Impact Statement System
SPS	–	ADB Safeguard Policy Statement, 2009

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I. INTRODUCTION

1. The proposed multitranche financing facility (MFF) to the Republic of the Philippines for the Malolos-Clark Railway Project (MCRP) will support construction of a new railway line that will provide affordable, reliable and safe public transport, reduce greenhouse gas emissions and cut the journey time by half to less than one hour. MCRP is part of the government's efforts to promote inclusive growth and improve the public transport services to currently underserved areas in the country. MCRP is expected to ease traffic congestion on the existing national and local roads along the railway's route and reduce Metro Manila traffic, while accelerating economic growth and expansion along the project's influence areas. The Department of Transportation (DOTr) is the project executing agency (EA).
2. The MCRP will include two sections of new railway services. The first section will provide a high standard suburban commuter rail from Malolos to Clark with the line commencing at the City of Malolos, passing through the municipalities of Calumpit in the province of Bulacan, and Apalit, Minalin and Santo Tomas in the province of Pampanga, and cities of San Fernando, Mabalacat and Angeles until the alignment reaches inside the Clark International Airport Complex, all in the Province of Pampanga. This section involves the construction of a 51 km railway line connecting Malolos to Clark and the Clark International Airport (CIA), located in the Central Luzon Region around 100 km north of Manila. As part of a different project, the Government is constructing the 37 km Tutuban–Malolos section of railway with financial support from JICA, known as the North South Commuter Railway (NSCR).
3. The second section of MCRP will extend the NSCR railway line from a junction point between Solis Station and Tutuban Station to a newly constructed station in Blumentritt, Santa Cruz, Manila City. It will comprise of around 2 km elevated double track alignment. Blumentritt Station will become an important transfer station for passengers, who will be able to change trains and continue their journey with Light Rail Transit (LRT) Line 1, which runs North-South through Manila City and connects as well to LRT Line 2 and Line 3. The second section of MCRP, i.e., Solis Station to Blumentritt Station, is part of the North South Railway Project or NSRP. The projects will promote and ensure sustainable development of Metro Manila, Greater Capital Region (GCR), and the Philippines.
4. The investment program is aligned with the following impact: Local, national, and international connectivity improved. The investment program will have the following outcome: Efficiency and capacity of transportation along the Manila–Clark corridor improved.
5. Under Output 1, the project will help to finance the construction of a 53 km new double-track railway line with a depot for maintenance of rolling stock and fixed assets. The project comprises six stations, integrating design features that are friendly to and safe for elderly people, women, children, and people with disabilities. The new railway line will be fully grade-separated, i.e. it will be elevated on a viaduct, to ensure safety of railway operations and the public living along the line without risk for unintended access to the railway tracks. The depot will also include an operations control center and a training center for railway staff to ensure safety of operations.
6. Under Output 2, institutional capacity will be strengthened. The project requires a high level of capacity in project and contract management as well as in managing documents flow amongst parties involved. The component will therefore establish a training program for DOTr staff in relation to procurement, project and contract management, railway operation and asset

management; establishing of a system to manage the document and funding flow amongst all parties involved in project implementation including the technical infrastructure and training will also be provided under this component.

7. The project will be financed by an MFF adopting the time-slicing approach for large-scale stand-alone projects. At the time of MFF processing; the design, procurement and safeguards were appraised for the entire MFF. Subsequent tranches will not entail identification and preparation of additional physical infrastructure. The next tranches will comprise disbursement to continue financing of contracts awarded under tranche 1. However, in the event there are additional project components that will be identified and prepared during subsequent tranches, the provisions of this EARF will need to be complied with.

8. The project as a whole was assessed as environment category A (i.e., anticipated to have significant adverse environmental impacts) and an environmental impact assessment was prepared for the project.

9. The purpose of this environmental assessment and review framework (EARF) is to: (i) describe the project as well as additional components that may be identified during project implementation; (ii) explain the general anticipated environmental and/or social impacts of the components or subprojects to be financed under the proposed project; (iii) specify the requirements that will be followed in relation to subproject screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements and, where applicable, safeguard criteria that are to be used in selecting subprojects and/or components; (iv) assess the adequacy of the borrower's/client's capacity to implement national laws and ADB's requirements and identify needs for capacity building; (v) specify implementation procedures, including the budget, institutional arrangements, and capacity development requirements; (vi) specify monitoring and reporting requirements; and (vii) describe the responsibilities of the borrower/client and of ADB in relation to the preparation, implementation, and progress review of safeguard documents of subprojects.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. Environmental Legislation

10. The PEISS was established under Presidential Decree 1586 and is currently being implemented through its implementing rules and regulations contained in DENR Administrative Order No. 30, series of 2003 (DAO 03-30), which established the Revised Procedural Manual, together with Memorandum Circulars No. 2011-005, and 2010-14. The system categorizes environmentally critical projects (ECPs) as projects with significant potential to cause negative environmental impacts which have been declared as ECPs through Proclamation Nos. 2146 and 803. ECPs are grouped into four main categories, namely: (i) heavy industries, (ii) resource extractive industries, (iii) infrastructure projects, and (iv) golf courses. **Appendix 1** presents the list of ECP types.

11. An area is considered an environmentally critical area (ECA) if it exhibits any of the following characteristics (**Appendix 1**):

- i. areas declared by law as national parks, watershed reserves, wildlife preserves, and sanctuaries;

- ii. areas set aside as aesthetic, potential tourist spots;
- iii. areas which constitute the habitat for any endangered or threatened species of indigenous Philippine wildlife;
- iv. areas of unique historic, archeological, geological, or scientific interests;
- v. areas which are traditionally occupied by cultural communities or tribes;
- vi. areas frequently visited and or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic activity, etc.);
- vii. areas with critical slopes;
- viii. areas classified as prime agricultural lands;
- ix. recharged areas of aquifers;
- x. water bodies;
- xi. mangroves; and
- xii. coral reefs.

1. Grouping of Subprojects

12. *Group I:* An ECP located in an ECA or a non-ECA - required to secure an Environmental Compliance Certificate (ECC) by submitting an Environmental Impact Statement (EIS) to the Central Office of the Environmental Management Bureau (EMB) of DENR.

13. *Group II:* A non-ECP located in an ECA - required to secure an ECC by submitting an IEE or an IEE Checklist to the Regional Office of the EMB where the subproject will be located.

14. *Group III:* A non-ECP located in a non-ECA - this includes subprojects intended to directly enhance environmental quality or address existing environmental problems. Group III subprojects are unlikely to cause adverse environmental impacts and are not covered by the PEISS. Group III subprojects are issued a Certificate of Non-coverage (CNC) upon submission of an application online to the EMB.

15. *Group IV:* Subprojects that are co-located (a mix of subprojects in a contiguous area optionally applied as one subproject) and require programmatic EIS regardless of capacity, area, and number of locators/components.

16. *Group V:* Covers unclassified subprojects that are required to submit a Project Description Report as an interim documentary requirement. Unclassified subprojects may be covered or not covered by the PEISS subject to EMB review of the subproject description.

2. Environmental Impact Assessment Reports

17. EIA-covered subprojects in Groups I, II and IV require either an (i) EIS, (ii) IEER, or (iii) IEEC, depending on subproject type, location, magnitude of potential impacts and project threshold. For non-covered subprojects in Groups II and III, a (v) Project Description Report (PDR) is the appropriate document to secure a decision from DENR-EMB. The PDR is a “must” requirement for environmental enhancement and mitigation projects in both ECAs (Group II) and non-ECAs (Group III) to allow the EMB to confirm the benign nature of proposed operations for eventual issuance of a Certificate of Non-Coverage (CNC). All other Group III (non-covered) subprojects do not need to submit PDRs – application is at the option of the proponent should it need a CNC for its own purposes, e.g. financing prerequisite. For Group V projects, a PDR is required to ensure new processes/technologies or any new unlisted subproject does not pose harm to the environment. The Group V PDR is a basis for either issuance of a CNC or classification of the subproject into its proper group.

a. Environmental Impact Statement

18. The EIS is a comprehensive study of the significant impacts of a subproject on the environment. It includes an EMP/Program that the proponent will fund and implement to protect the environment. The EIS is a document, prepared and submitted by the subproject proponent and/or EIA consultant that serves as an application for an ECC.

b. Initial Environmental Examination Report

19. An IEER is a document similar to an EIS, but with reduced details and depth of assessment and discussion.

c. Initial Environmental Examination Checklist Report

20. An IEEC Report is a simplified checklist version of the IEER, prescribed by the DENR to be filled up by the proponent to identify and assess a subproject's environmental impacts and the mitigation/enhancement measures to address such impacts.

21. The IEEC Report forms have been designed to simplify and standardize EIA reports so that minimal technical expertise is required to fill up of the form, which shall serve as the EIS submission for ECC applications. The checklist contains a series of questions that deals with issues and concerns about the proposed subproject and its environment. The checklist also provides information on the proposed subproject's environmental impact, both positive and negative. The information contained in the checklist will serve as a basis for the review and assessment of EMB's Regional Office for the issuance or denial of an ECC application.

22. The IEEC Report is applicable for the following types of subprojects that are covered under the provisions of existing guidelines on the PEISS:

- i. Batching and Crushing Plants
- ii. Fisheries/aquaculture Projects
- iii. Food & Food By-product and Beverages Manufacturing Plants
- iv. Non-Food Manufacturing (textile, rubber, chemical) Plants
- v. Subdivisions/Housing Projects
- vi. Building Projects (commercial, institutional, land transportation terminal,
- vii. Motels, hotels, condominiums/apartelles and storage facilities)
- viii. Cemetery and other Funeral Facility Projects
- ix. Livestock /Poultry Projects
- x. Resorts and other Tourism/Leisure Projects
- xi. Roads and Bridges
- xii. Water Supply Projects
- xiii. Irrigation & Flood Control Projects
- xiv. Waste Management Projects

3. Environmental Compliance Documents

a. Environmental Compliance Certificate

23. The Environmental Compliance Certificate (ECC) is a document issued by the EMB certifying that the proponent has complied with all the requirements of the PEISS and has committed to implement its approved EMP. The ECC also provides guidance to other agencies

and to LGUs on EIA findings and recommendations, which need to be considered in their respective decision-making process.

b. Certificate of Non-Coverage

24. The Certificate of Non-Coverage (CNC) is a document issued by the EMB certifying that a project or undertaking is not covered by the PEISS and is not required to secure an ECC. A PDR may be submitted at the option of the proponent should the proponent need a CNC for its own purposes¹.

4. Philippine EIA Process

25. **Table 1** below summarizes the Philippine EIA process:

Table 1. Philippine EIA process

<p>1. Screening determines if a project is covered or not covered by the PEISS. If a project is covered, screening further determines what document type the project should prepare to secure the needed approval, and what the rest of the requirements are in terms of EMB office of application, endorsing and decision authorities, duration of processing.</p>
<p>2. Public consultation involves the gathering of information, concerns, opinions and suggestions from the public through meetings, interviews, focus group discussions and other similar means. Stakeholder involvement will be initiated early through information and education campaign (IEC) prior to scoping.</p>
<p>3. Scoping is a proponent-driven multi-sectoral formal process of determining the focused Terms of Reference of the EIA Study. Scoping identifies the most significant issues/impacts of a proposed project, and then, delimits the extent of baseline information to those necessary to evaluate and mitigate the impacts. The need for and scope of an Environmental Risk Assessment (ERA) is also done during the scoping session. Scoping is done with the local community through Public Scoping and with a third party EIA Review Committee (EIARC) through Technical Scoping, both with the participation of the DENR-EMB. The process results in a signed Formal Scoping Checklist by the review team, with final approval by the EMB Chief.</p>
<p>4. The EIA study involves a description of the proposed project and its alternatives, characterization of the project environment, impact identification and prediction, evaluation of impact significance, impact mitigation, formulation of Environmental Management and Monitoring Plan, with corresponding cost estimates and institutional support commitment. The study results are presented in an EIA Report for which an outline is prescribed by EMB for every major document type.</p>
<p>5. Review of EIA reports normally entails an EMB procedural screening for compliance to minimum requirements specified during Scoping, followed by a substantive review of either composed third party experts commissioned by EMB as the EIA Review Committee for PEIS/EIS-based applications, or DENR/EMB internal specialists, the Technical Committee, for IEE-based applications. EMB evaluates the EIARC recommendations and the public's inputs during public consultations/hearings in the process of recommending a decision on the application. The EIARC Chair signs EIARC recommendations including issues outside the mandate of the EMB. The entire EIA review and evaluation process is summarized in the Review Process Report (RPR) of the EMB, which includes a draft decision document.</p>
<p>6. Decision making involves evaluation of EIA recommendations and the draft decision document, resulting to the issuance of an ECC, CNC or Denial Letter. When approved, a covered project is issued its certificate of Environmental Compliance Commitment (ECC) while an application of a non-covered project is issued a Certificate of Non-Coverage (CNC). Endorsing and deciding authorities are designated by AO 42, and further detailed in this Manual for every report type. Moreover, the Proponent signs a sworn statement of full responsibility on implementation of its commitments prior to the release of the ECC. The ECC is then transmitted to concerned LGUs and other GAs for integration into their decision-making process. The regulated part of EIA Review is limited to the processes within EMB control. The</p>

¹ Under DENR Memorandum Circular No. 2010-14 issued on June 29, 2010, projects below the threshold of coverage based on the existing procedural manual for DAO 2003-30, CNC applications shall no longer require submission of Project Description Reports (PDR). The prescribed 1-page Application Form to be processed in the Automated Processing System is sufficient.

timelines for the issuance of decision documents provided for in AO 42 and DAO 2003-30 are applicable only from the time the EIA Report is accepted for substantive review to the time a decision is issued on the application.

7. **Monitoring, validation and evaluation/audit** stage assesses performance of the Proponent against the ECC and its commitments in the Environmental Management and Monitoring Plans to ensure actual impacts of the project are adequately prevented or mitigated.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

26. Detailed assessment of impacts will be carried out during the preparation of environmental assessment reports of additional project components based on actual site conditions, location, scope and other related aspects which are not known at the moment. Below are brief descriptions of general anticipated impacts during construction and operation of the first section of MCRP (Malolos to Clark).

Table 2. General anticipated impacts of MCRP (Section 1: Malolos to Clark)

Environmental Component	Potential Impact
CONSTRUCTION	
LAND	
Geology/ Geomorphology	Inducement of subsidence, liquefaction, landslide, mud/debris flow
Pedology	Degradation of soil quality (soil contamination)
Terrestrial Ecology	Loss of flora and fauna within right-of-way and depot site
WATER	
Hydrology	Inducement of flooding
Water Quality	Degradation of surface water quality
AIR	
Air Quality	Degradation of air quality
Noise	Increase in ambient noise level
Ground vibration	Increase in ambient vibration level
PEOPLE	
People	Generation of livelihood opportunities
	Cultural/Lifestyle Change of Indigenous Peoples
	Change/Conflict on ROW and Impact on Public Access
	Risks to public health and safety
	Traffic congestion
OPERATION	
LAND	
Pedology (Soil Quality)	Degradation of soil quality (soil contamination)
Geology/ Geomorphology	Inducement of subsidence, liquefaction, landslide, mud/debris flow
WATER	
Groundwater and Freshwater Quality	Deterioration of nearby groundwater and surface water due to discharge of untreated wastewater in stations and depot
AIR	
Noise	Increase in ambient noise level
Ground Vibration	Increase in ground vibration level
PEOPLE	
People	Generation of livelihood opportunities
	Influx of informal settlers
	Risks to public health and safety
	Traffic Congestion in the areas adjacent to the proposed stations
	Reduced travel time for commuters

27. The anticipated environmental impacts of the proposed Solis to Blumentritt section during construction and operation are generally similar to the first section (Malolos to Clark) of MCRP with the exception of impacts to indigenous peoples who are not present in the project affected areas of the Solis-Blumentritt section. Further, as the Solis to Blumentritt section is located in an urban setting, adverse impacts due to elevated levels of noise, vibration and dust will affect densely populated areas.

Table 3. General anticipated impacts of MCRP (Section 2: Solis to Blumentritt)

Environmental Component	Potential Impact
CONSTRUCTION	
LAND	
Geology/ Geomorphology	Inducement of subsidence, liquefaction, landslide, mud/debris flow
Pedology	Degradation of soil quality (soil contamination)
Terrestrial Ecology	Loss of flora and fauna within right-of-way and depot site
WATER	
Hydrology	Inducement of flooding
Water Quality	Degradation of surface water quality
AIR	
Air Quality	Degradation of air quality
Noise	Increase in ambient noise level
Ground vibration	Increase in ambient vibration level
PEOPLE	
People	Generation of livelihood opportunities
	Change/Conflict on ROW and Impact on Public Access
	Risks to public health and safety
	Traffic congestion
OPERATION	
LAND	
Pedology (Soil Quality)	Degradation of soil quality (soil contamination)
Geology/ Geomorphology	Inducement of subsidence, liquefaction, landslide, mud/debris flow
WATER	
Groundwater and Freshwater Quality	Deterioration of nearby groundwater and surface water due to discharge of untreated wastewater in stations and depot
AIR	
Noise	Increase in ambient noise level
Ground Vibration	Increase in ground vibration level
PEOPLE	
People	Generation of livelihood opportunities
	Influx of informal settlers
	Risks to public health and safety
	Traffic Congestion in the areas adjacent to the proposed stations
	Reduced travel time for commuters

28. Environmental guidelines² to be applied for the project are as follows:

- i. Ambient air quality: National Ambient Air Quality Guideline Values (Republic Act 8749-Philippine Clean Air Act of 1999)
- ii. Noise: International Finance Corporation (IFC) - World Bank Group's Environmental, Health, and Safety (EHS) Guidelines, April 2007 which include the Guidelines for Community Noise, World Health Organization (WHO), 1999
- iii. Water quality: Water Quality Guidelines and General Effluent Standards of 2016 (DENR Administrative Order No. 2016-08)

IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS

A. ADB Environmental Assessment Procedures for the Subprojects

29. DOTr will ensure that the following activities are undertaken for each subproject prior to implementation.

1. Screening and Environmental Categorization

30. A rapid environmental assessment (REA) using the ADB REA Checklist which also include a checklist for preliminary climate risk screening (**Appendix 2**), and environmental categorization form (**Appendix 3**) will be accomplished by DOTr for review and approval of ADB.

2. Preparation of Initial Environmental Examination (IEE) and/or Environmental Impact Assessment (EIA)

31. DOTr will ensure that environmental assessment documents prepared for all subprojects to be funded under the emergency loan will, to the extent possible, meet both ADB and Philippine government requirements, in order to streamline the environmental procedures required by both ADB and the government.

32. Attached as **Appendix 3** is the outline of an environmental assessment report based on ADB SPS 2009. In preparing the reports, relevant primary data through field sampling/surveys will be generated and secondary data will be collected for project-influenced sites. Further guidance on the environmental assessment and related aspects are found in Appendix 1 (Safeguards Requirements 1: Environment) of the ADB SPS 2009 (**Appendix 4**).

3. Review of IEEs/EIAs

33. DOTr will submit and endorse to ADB the draft IEE/EIA for review, clearance and posting on ADB website before implementation of each subproject.

34. In case an ECC is required based on Government requirements, DOTr will ensure that EIAs/IEEs will be submitted to the Environmental Management Bureau (EMB). Processing of the ECC application will follow the Philippine EIA process outlined in **Figure 1**.

² The design, construction, and operation of the project will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in this document.

35. It is the responsibility of the DOTr to ensure that subprojects comply with the environment-related legal framework, whether at the national or local level.

4. Sub-project Implementation

36. No works for a subproject with environmental impacts shall be awarded before:
- i. the IEE or EIA has received the final approval from DENR and clearance from ADB
 - ii. the IEE or EIA has been endorsed by DOTr to ADB and disclosed on ADB website per ADB SPS requirement, and
 - iii. the provisions of the EMP have been reflected in the contracts.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation

37. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. A meaningful consultation pertains to a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Public consultation will be undertaken during the IEE/EIA preparation to document comments from the villagers, community groups, local government, and interested NGOs.

38. During IEE/EIA preparation, public meetings will be conducted involving local government officials, residents, affected people and groups from communities traversed by the subproject roads to: (i) inform them of the proposed subproject and potential environmental impacts, and (ii) to document concerns/issues that people may have on the project. Consultations will have the following agenda:

- i. Presentation of the proposed works under the subproject;
- ii. Presentation of subproject objectives and expected positive and negative environmental impacts, covering the construction phase and operational impacts;
- iii. Invitation for feedback in respect of environment-related concerns that the public may have, and suggested means to resolve issues;
- iv. Disclosure of and feedback on the Grievance Redress Mechanism (GRM)

39. For the consultations, the dates, venues, attendance sheets, topics covered, issues raised, project's response to issues concerns raised will be documented and included in the IEE/EIA.

B. Information Disclosure

40. DOTr will endorse the following documents to ADB for disclosure on its website:

- i. final IEE
- ii. draft and final EIA
- iii. a new or updated IEE/EIA and corrective action plan prepared during project implementation;
- iv. semi-annual environmental monitoring reports; and
- v. annual external environmental monitoring reports (for Category A subprojects)

41. The draft EIA will need to be publicly disclosed at least 120-days before the subproject is implemented. However, ADB Management can waive the 120-day rule for disclosure of the EIA and the two-step public consultation requirement for Category A projects on a project-by-project basis³. The IEE/EIA need to be cleared by ADB before a subproject is implemented.

C. Grievance Redress Mechanism

42. The Grievance Redress Mechanism (GRM) is an effective tool for early identification, assessment, and resolution of complaints on projects. The GRM for the proposed MCRP has the following objectives:

- i. To receive and facilitate the resolution of project stakeholders' concerns and grievances about environment related project impacts which cannot be settled during public consultations, paying particular attention to the impacts on vulnerable groups;
- ii. To measure to the risks and adverse impacts of the project; and
- iii. To address project stakeholders' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to the country's judicial or administrative remedies.

43. The Grievance Procedure for MCRP is presented in Table 4.

Table 4. Grievance Procedure for MCRP

Steps	By	Actions
1	Aggrieved Stakeholder	Any aggrieved stakeholder will lodge his/her grievance in writing, verbally or electronically transmitted to the DOTr Railway Office for immediate action.
2	The Grievance Officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receiving the written, verbal or electronically forwarded complaint from the aggrieved stakeholder and explaining the grievance redress process. Acknowledge receipt (and entering it into the grievance registry of the DOTr-Record Management System) of the complaint, provide copy and give contact details of where the complaint will be forwarded and who is responsible for acting on complaint. • Review the complaint to determine whether it is project related or not.
3	Aggrieved Stakeholder	<p>a) If the complaint is project-related, the DOTr Railway Office will forward the complaint to the HSEO within the day from receipt of complaint.</p> <p>b) If it is not project-related, the DOTr Railway Office will assist the PAP by referring the complaint to the appropriate agency or LGU who may be able to act on the complaint.</p> <p>If the aggrieved stakeholder is not satisfied with the decision of the Grievance Officer of DOTr Railway Office that the complaint is not project-related, the aggrieved stakeholder may elevate his/her complaint to the HSEO.</p>
4	The Grievance officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive request from the aggrieved stakeholder to elevate his/her complaint to HSEO of the Contractor • Record the status of the aggrieved stakeholder complaint.

³ ADB's Disaster and Emergency Policy (2004)

Steps	By	Actions
5	1 st Level PMO HSEO	<ul style="list-style-type: none"> • Receives complaint forwarded by the Grievance officer. • Act and decide on the complaint within three (3) working days reckoning from the day it is received from Grievance Officer and inform the decision to the aggrieved stakeholder on the decision accordingly. • Inform the Grievance Officer the action and/or decision on the aggrieved stakeholder's complaint.
6	The Grievance Officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive and record decision of 1st level decision maker • Inform to the aggrieved stakeholder.
7	Aggrieved Stakeholder	<ul style="list-style-type: none"> • Receives action of the 1st level through the Grievance Officer • If satisfied, the complaint is resolved and recorded accordingly. • If not satisfied with the decision of the 1st level or if his/her complaint has not been acted upon within a period of three (3) working days and has not received any response from the 1st level decision maker, the aggrieved stakeholder can forward the complaint, or file an appeal, to the HSEC.
8	Grievance officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive request from the aggrieved stakeholder to elevate his/her complaint to the HSEC • Record the status of the aggrieved stakeholder complaint. • Forward the complaint to the 2nd Level within the day from receipt of complaint.
9	2 nd Level HSEC	<ul style="list-style-type: none"> • Receives complaint from the Grievance Officer. • Act and decide on the complaint within 10 working days and inform the decision to the aggrieved stakeholder on the decision accordingly. • Inform the Grievance Officer the action and/or decision on the aggrieved stakeholder's complaint.
10	Grievance Officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive and record decision of HSEC • Inform to the aggrieved stakeholder.
11	Aggrieved Stakeholder	<ul style="list-style-type: none"> • Receives action of the 2nd Level through the Grievance Officer • If satisfied, the complaint is resolved and recorded accordingly. • If not satisfied with the decision of the 2nd Level or if his/her complaint has not been acted upon within a period of 10 working day and has not received any response from the 2nd Level, the aggrieved stakeholder can forward the complaint, or file an appeal, to the 3rd Level.
12	Grievance Officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive request from the aggrieved stakeholder to elevate his/her complaint to the 3rd Level. • Record the status of the aggrieved stakeholder complaint. • Forward the complaint to the 3rd level within the day from receipt of complaint.
13	3 rd Level MMT / PMO Board	<ul style="list-style-type: none"> • Receives complaint from the Grievance Officer. • Act and decide on the complaint within 15 working days and inform the decision to the aggrieved stakeholder on the decision accordingly. • Inform the Grievance Officer the action and/or decision on the aggrieved stakeholder's complaint.
14	Grievance Officer (DOTr Railway Office)	<ul style="list-style-type: none"> • Receive and record decision of the 3rd Level • Inform to the aggrieved stakeholder.
15	Aggrieved Stakeholder	<ul style="list-style-type: none"> • Receives action of the 3rd Level through the Grievance Officer • If satisfied, the complaint is resolved and recorded accordingly. • If not satisfied with the decision of the MMT or if his/her complaint has not been acted upon within a period of 15 working day and has not received any response from the 3rd Level, the aggrieved stakeholder can forward the complaint, or file an appeal, to the DENR
16	4 th Level DENR	<ul style="list-style-type: none"> • Receives complaint from aggrieved stakeholder. • Once the complaint is filed in the DENR, technical conference will follow.

VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. Environmental Assessment, Review and Clearance

44. **DOTr.** DOTr will be the executing agency (EA) for project. The DOTr will ensure:

- i. Compliance of ADB SPS (2009), Government laws and regulations during the implementation of the project.
- ii. Upon completion of detailed design, updated EIAs are prepared and submitted to ADB for review and clearance— including corrective actions plans (CAP) agreed between the Government and ADB.

- iii. During the project implementation, updated EIAs are prepared and submitted to ADB for review and clearance should there be changes in the project design, alignment, inclusion of additional components and/or other changes that will result to adverse environmental impacts.
- iv. The environmental management plan (EMP) included in the EIA are to be implemented in accordance with their terms and all applicable laws and regulations of the Philippines and ADB's SPS;
- v. In case of any inconsistency between government laws and ADB's policy, the more stringent policies will prevail;
- vi. The Grievance Redress Mechanism (GRM) is disclosed to affected households and communities, is implemented, and reported on in the regular monitoring reports;
- vii. Solutions for grievances reported by the complainants will be facilitated by assisting, facilitating and guiding the contractor and supervision consultant.
- viii. Adequate staff and resources are committed to supervising and monitoring implementation of the EMP and for operation of the GRM;
- ix. Timely recruitment and mobilization of an external monitoring agency (EMA);
- x. Submission of semi-annual EMA report to ADB for review and disclosure; and
- xi. Regular and timely submission of internal semi-annual environmental monitoring reports to ADB for review and disclosure.

45. **DOTr MCRP Project Management Office (MCR-PMO).** The MCR-PMO shall be the implementing office of the MCRP. It will be the representative of DOTr in all activities pertaining to the planning, design review, and implementation of the project. The PMO will consist of six divisions, including an Environment, Social and ROW Division (ESRD).

46. The responsibilities of the MCR-PMO include:

- i. Provide TA on day-to-day activities and management monitoring of the Project, including implementation of the EMP;
- ii. Secure necessary environment-related approvals and permits from concerned government agencies;
- iii. Supervise the general consultant undertaking the detailed engineering design review, tendering and construction;
- iv. Monitor the progress of the Project to ensure that compliance with the conditions of the contract, particularly on EMP implementation are carried out by the supervision consultant and general contractor; and
- v. Submit all necessary environmental safeguards reports to DOTr and act under the overall direction of the Undersecretary for Railways.

47. **ADB.** The ADB will have the following responsibilities to ensure compliance with the ADB SPS: (a) approve the environmental categorization of each subproject, (b) review and clear IEEs/EIAs prepared based on ADB SPS, and (c) publicly disclose final IEEs, draft and final EIAs on ADB's website.

B. Capacity Development

48. The Environment Social and ROW Division (ESRD) will be established as part of MCR-PMO. The environmental assessment and management capacity of ESRD will be enhanced through on-the-job training. During IEE/EIA preparation, the concerned DOTr staff will work

closely with the environment specialist of the DED. During construction phase, the DOTr staff will be supported by the environment specialist of the construction supervision consultant (CSC) in the conduct of environmental monitoring and preparation of environmental monitoring reports.

C. Staffing Requirement and Budget

49. The costs for environmental safeguard activities (e.g., IEE and EIA preparation) for subprojects to be prepared during implementation will be included in the DED's contract. During construction phase, the cost of mitigation measures will be incorporated into the contractor's costs since the environmental management plan will be part of the tender documents. DOTr will update the IEE/EIA should there be changes to the project (e.g., design, location, construction methodology, etc.) that will result to adverse environmental impacts. The updated IEE/EIA will be reviewed, cleared and publicly disclosed by ADB prior to implementation of said changes.

VII. MONITORING AND REPORTING

50. Environmental monitoring and report preparation during civil works will be carried out by the CSC in coordination with MCR-PMO's ESRD. DOTr will submit semi-annual environmental monitoring reports (SEMR) to ADB for review and disclosure on ADB's website.

51. DOTr will also engage an external environmental monitor (independent) to verify, on a semi-annual basis, the information contained in the SEMRs.

52. ADB will review subproject environmental performance against the commitments as agreed in the legal documents and IEE/EIA. The extent of ADB's monitoring and supervision activities will be commensurate with the subproject's risks and impacts. Monitoring and supervising of environmental safeguards will be integrated into the project performance management system. ADB will monitor subprojects on an ongoing basis until a project completion report is issued. ADB will carry out the following monitoring actions to supervise project implementation:

- (i) Conduct periodic site visits for subprojects with adverse environmental impacts;
- (ii) Review semi-annual environmental monitoring reports submitted by DOTr to ensure that adverse impacts and risks are mitigated as planned and as agreed with ADB;
- (iii) Work with DOTr to rectify, to the extent possible, any non-compliance with their safeguard commitments, as covenanted in the legal agreements and as specified in the IEE/EIA, and exercise remedies to re-establish compliance as appropriate; and
- (iv) Prepare a project completion report that assesses whether the objective and desired outcomes of the safeguard plans have been achieved.

**Appendix 1:
List of Environmentally Critical Projects (ECPs) and
Environmentally Critical Areas (ECAs)**

In accordance with Presidential Proclamation No. 2146, series of 1981 and Proclamation No. 803 (Series of 1996), the four (4) main categories of ECPs are (1) heavy industries; (2) resource extractive industries; (3) infrastructure projects and (4) golf course projects.

1. Heavy Industries
 - a) Non-Ferrous Metal Industries
 - b) Iron and Steel Mills
 - c) Petroleum and Petrochemical Industries
 - d) Smelting Plants

2. Resource Extractive Industries
 - a) Non-Ferrous Metal Industries
 - b) Major Mining and Quarrying Projects
 - c) Forestry Projects
 - d) Dikes for/and Fishpond Development Projects

3. Infrastructure Projects
 - a) Major Dams
 - b) Major Power Plants
 - c) Major Reclamation Projects
 - d) Major Roads and Bridges

4. Golf Course Projects

In accordance with Presidential Proclamation No. 2146, series of 1981, following is the list of environmentally critical areas (ECAs):

1. All areas declared by law as national parks, watershed reserves, wildlife preserves and sanctuaries;
2. Areas set aside as aesthetic potential tourist spots;
3. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine Wildlife (flora and fauna);
4. Areas of unique historic, archaeological, or scientific interests;
5. Areas which are traditionally occupied by cultural communities or tribes;
6. Areas frequently visited and/or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic activity, etc.);
7. Areas with critical slopes;
8. Areas classified as prime agricultural lands;

9. Recharged areas of aquifers;

10. Water bodies characterized by one or any combination of the following conditions;

- a) tapped for domestic purposes
- b) within the controlled and/or protected areas declared by appropriate authorities
- c) which support wildlife and fishery activities

11. Mangrove areas characterized by one or any combination of the following conditions:

- a) with primary pristine and dense young growth;
- b) adjoining mouth of major river systems;
- c) near or adjacent to traditional productive fry or fishing grounds;
- d) which act as natural buffers against shore erosion, strong winds and storm floods;
- e) on which people are dependent for their livelihood.

12. Coral reefs characterized by one or any combinations of the following conditions:

- a) With 50% and above live coralline cover;
- b) Spawning and nursery grounds for fish;
- c) which act as natural breakwater of coastlines.

Appendix 2:

Rapid Environmental Assessment (REA) Checklist

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to ADB.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Country/Project:

Subproject Name:

SCREENING QUESTIONS	Yes	No	REMARKS
A. PROJECT SITING			
IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			
B. POTENTIAL ENVIRONMENTAL IMPACTS			
WILL THE PROJECT CAUSE...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ degradation of cultural property, and loss of cultural heritage and tourism revenues?			
▪ alteration of surface water hydrology of waterways crossed by the alignment, resulting in increased sediment in streams affected by increased soil erosion at construction site?			

SCREENING QUESTIONS	Yes	No	REMARKS
<ul style="list-style-type: none"> ▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction? 			
<ul style="list-style-type: none"> ▪ water resource problems (e.g. depletion/ degradation of available water supply, deterioration for surface and ground water quality) and pollution of receiving waters? 			
<ul style="list-style-type: none"> ▪ overpaving leading to lowered ground water table, leading to land subsidence, etc.? 			
<ul style="list-style-type: none"> ▪ road blocking and temporary flooding due to land excavation during rainy season? 			
<ul style="list-style-type: none"> ▪ traffic disturbances due to construction material transport and wastes? 			
<ul style="list-style-type: none"> ▪ increased local air pollution due to earth works and other activities during construction? 			
<ul style="list-style-type: none"> ▪ Noise and vibration from construction and operation activities? 			
<ul style="list-style-type: none"> ▪ noise and vibration due to blasting? 			
<ul style="list-style-type: none"> ▪ social conflicts between construction workers from other areas and local workers? 			
<ul style="list-style-type: none"> ▪ hazardous driving conditions where construction interferes with pre-existing roads? 			
<ul style="list-style-type: none"> ▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 			
<ul style="list-style-type: none"> ▪ creation of temporary breeding habitats for mosquito vectors of disease? 			
<ul style="list-style-type: none"> ▪ dislocation and involuntary resettlement of people living in right-of-way? 			

Preliminary Climate Risk Screening Checklist

Country/Project Name: _____

Subproject Name: _____

Location: _____

Screening Questions		Score	Remarks ¹
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s) ?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High): _____

Other Comments: _____

Prepared by: _____

Designation/Agency: _____

Date: _____

¹ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Appendix 3:

OUTLINE OF AN ENVIRONMENTAL ASSESSMENT REPORT (EIA/IEE)

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives (*For Category A Projects only*)

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

- (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

- (i) Mitigation:
 - (a) identifies and summarizes anticipated significant adverse environmental impacts and risks;
 - (b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
 - (c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

Sample environmental mitigation summary table:

Environmental Mitigation Measures

Potential Environmental Impact	Mitigation Measures	Institutional Responsibilities		Cost estimates
		Implementation	Monitoring	
Pre-construction				
Construction				
Operation				

- (ii) Monitoring:
 - (a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and
 - (b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

Sample environmental monitoring summary table:

Environmental Monitoring Plan

Aspects/ Parameters to be monitored	Location	Means of Monitoring	Monitoring Frequency	Monitoring Responsibility	Monitoring Cost
Pre-construction					
Construction					
Operation					

- (iii) Implementation arrangements:
 - (a) specifies the implementation schedule showing phasing and coordination with overall project implementation;
 - (b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
 - (c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.
- (iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance

criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

Appendix 4:
ADB Safeguard Policy Statement (2009)
Safeguard Requirements 1: Environment

A. Introduction

1. Safeguard Requirements 1 outlines the requirements that borrowers/clients are required to meet when delivering environmental safeguards for projects supported by the Asian Development Bank (ADB). It discusses the objectives and scope of application, and underscores the requirements for undertaking the environmental assessment process. These requirements include assessing impacts, planning and managing impact mitigations, preparing environmental assessment reports, disclosing information and undertaking consultation, establishing a grievance mechanism, and monitoring and reporting. The document also includes particular environmental safeguard requirements pertaining to biodiversity conservation and sustainable management of natural resources, pollution prevention and abatement, occupational and community health and safety, and conservation of physical cultural resources. The applicability of particular requirements is established through the environmental assessment process and compliance with the requirements is achieved through implementation of environmental management plans agreed to by ADB and the borrower/client.

B. Objectives

2. The objectives are to ensure the environmental soundness and sustainability of projects, and to support the integration of environmental considerations into the project decision-making process.

C. Scope of Application

3. The requirements apply to all ADB-financed and/or ADB-administered sovereign and non-sovereign projects, and their components regardless of the source of financing, including investment projects funded by a loan; and/or a grant; and/or other means, such as equity and/or guarantees (hereafter broadly referred to as projects).

D. Requirements

1. Environmental Assessment

4. Environmental assessment is a generic term used to describe a process of environmental analysis and planning to address the environmental impacts and risks associated with a project. At an early stage of project preparation, the borrower/client will identify potential direct, indirect, cumulative and induced environmental impacts on and risks to physical, biological, socioeconomic, and physical cultural resources and determine their significance and scope, in consultation with stakeholders, including affected people and concerned NGOs. If potentially adverse environmental impacts and risks are identified, the borrower/client will undertake an environmental assessment as early as possible in the project cycle. For projects with potentially significant adverse impacts that are diverse, irreversible, or unprecedented, the borrower/client will examine alternatives to the project's location, design, technology, and components that would avoid, and, if avoidance is not possible, minimize adverse environmental impacts and risks. The rationale for selecting the particular project location, design, technology, and components will be properly documented, including, cost-benefit analysis, taking environmental costs and benefits of

the various alternatives considered into account. The "no project" alternative will be also considered.

5. The assessment process will be based on current information, including an accurate project description, and appropriate environmental and social baseline data. The environmental assessment will consider all potential impacts and risks of the project on physical, biological, socioeconomic (occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]) and physical cultural resources in an integrated way. The project's potential environmental impacts and risks will be reviewed against the requirements presented in this document and applicable laws and regulations of the jurisdictions in which the project operates that pertain to environmental matters, including host country obligations under international law.

6. Impacts and risks will be analyzed in the context of the project's area of influence. This area of influence encompasses (i) the primary project site(s) and related facilities that the borrower/client (including its contractors) develops or controls, such as power transmission corridors, pipelines, canals, tunnels, access roads, borrow pits and disposal areas, and construction camps; (ii) associated facilities that are not funded as part of the project (funding may be provided separately by the borrower/client or by third parties), and whose viability and existence depend exclusively on the project and whose goods or services are essential for successful operation of the project; (iii) areas and communities potentially affected by cumulative impacts from further planned development of the project, other sources of similar impacts in the geographical area, any existing project or condition, and other project-related developments that are realistically defined at the time the assessment is undertaken; and (iv) areas and communities potentially affected by impacts from unplanned but predictable developments caused by the project that may occur later or at a different location. The area of influence does not include potential impacts that might occur without the project or independently of the project. Environmental impacts and risks will also be analyzed for all relevant stages of the project cycle, including preconstruction, construction, operations, decommissioning, and post closure activities such as rehabilitation or restoration.

7. The assessment will identify potential transboundary effects, such as air pollution, increased use or contamination of international waterways, as well as global impacts, such as emission of greenhouse gases and impacts on endangered species and habitats.

8. The environmental assessment will examine whether particular individuals and groups may be differentially or disproportionately affected by the project's potential adverse environmental impacts because of their disadvantaged or vulnerable status, in particular, the poor, women and children, and Indigenous Peoples. Where such individuals or groups are identified, the environmental assessment will recommend targeted and differentiated measures so that adverse environmental impacts do not fall disproportionately on them.

9. Depending on the significance of project impacts and risks, the assessment may comprise a full-scale environmental impact assessment (EIA) for category A projects, an initial environmental examination (IEE) or equivalent process for category B projects, or a desk review. An EIA report includes the following major elements: (i) executive summary, (ii) description of the project, (iii) description of the environment (with comprehensive baseline data), (iv) anticipated environmental impacts and mitigation measures, (v) analysis of alternatives, (vi) environmental management plan(s), (vii) consultation and information disclosure, and (viii) conclusion and recommendations. The annex to this appendix provides further details. An IEE, with its narrower

scope, may be conducted for projects with limited impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.

10. When the project involves existing activities or facilities, relevant external experts will perform environmental audits to determine the existence of any areas where the project may cause or is causing environmental risks or impacts. If the project does not foresee any new major expansion, the audit constitutes the environmental assessment for the project. A typical environmental audit report includes the following major elements: (i) executive summary; (ii) facilities description, including both past and current activities; (iii) summary of national, local, and any other applicable environmental laws, regulations, and standards; (iv) audit and site investigation procedure; (v) findings and areas of concern; and (vi) corrective action plan that provides the appropriate corrective actions for each area of concern, including costs and schedule.

11. When the project involves the development of or changes to policies, plans, or programs that are likely to have significant environmental impacts that are regional or sectoral, strategic environmental assessment will be required. A strategic environmental assessment report will include (i) an analysis of the scenario, (ii) an assessment of long-term and indirect impacts, (iii) a description of the consultation process, and (iv) an explanation of option selection.

2. Environmental Planning and Management

12. The borrower/client will prepare an environmental management plan (EMP) that addresses the potential impacts and risks identified by the environmental assessment. The EMP will include the proposed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the project is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions will be commensurate with the project's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties", the polluter pays principle, the precautionary approach, and adaptive management.

13. If some residual impacts are likely to remain significant after mitigation, the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity, preservation of ambient conditions, and greenhouse gas emissions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, provided that the compensation is used to provide environmental benefits of the same nature and is commensurate with the project's residual impact.

14. The EMP will define expected outcomes as measurable events to the extent possible and will include performance indicators or targets that can be tracked over defined periods. It will be responsive to changes in project design, such as a major change in project location or route, or in technology, unforeseen events, and monitoring results.

15. At times, a third party's involvement will influence implementation of the EMP. A third party may be, inter alia, a government agency, a contractor, or an operator of an associated facility.

When the third-party risk is high and the borrower/client has control or influence over the actions and behavior of the third party, the borrower/client will collaborate with the third party to achieve the outcome consistent with the requirements for the borrower/client. Specific actions will be determined on a case-by-case basis.

16. The borrower/client will use qualified and experienced experts to prepare the environmental assessment and the EMP. For highly complex and sensitive projects, independent advisory panels of experts not affiliated with the project will be used during project preparation and implementation.

3. Information Disclosure

17. The borrower/client will submit to ADB the following documents for disclosure on ADB's website:

- (i) a draft full EIA (including the draft EMP) at least 120 days prior to ADB Board consideration, and/or environmental assessment and review frameworks before project appraisal, where applicable;
- (ii) the final EIA/IEE;
- (iii) a new or updated EIA/IEE and corrective action plan prepared during project implementation, if any; and
- (iv) the environmental monitoring reports.

18. The borrower/client will provide relevant environmental information, including information from the documents in para. 17 in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used.

4. Consultation and Participation

19. The borrower/client will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle⁴ (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The consultation process and its results are to be documented and reflected in the environmental assessment report.

5. Grievance Redress Mechanism

20. The borrower/client will establish a mechanism to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance. The grievance mechanism should be scaled to the risks and adverse impacts of the

⁴ For environment category A projects, such consultations will necessarily include consultations at the early stage of EIA field work and when the draft EIA report is available during project preparation, and before project appraisal by ADB.

project. It should address affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs and without retribution. The mechanism should not impede access to the country's judicial or administrative remedies. The affected people will be appropriately informed about the mechanism.

6. Monitoring and Reporting

21. The borrower/client will monitor and measure the progress of implementation of the EMP. The extent of monitoring activities will be commensurate with the project's risks and impacts. In addition to recording information to track performance, the borrower/client will undertake inspections to verify compliance with the EMP and progress toward the expected outcomes. For projects likely to have significant adverse environmental impacts, the borrower/client will retain qualified and experienced external experts or qualified NGOs to verify its monitoring information. The borrower/client will document monitoring results, identify the necessary corrective actions, and reflect them in a corrective action plan. The borrower/client will implement these corrective actions and follow up on these actions to ensure their effectiveness.

22. The borrower/client will prepare periodic monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. The borrower/client will submit at least semiannual monitoring reports during construction for projects likely to have significant adverse environmental impacts, and quarterly monitoring reports for highly complex and sensitive projects. For projects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis. Such periodic reports will be posted in a location accessible to the public. Project budgets will reflect the costs of monitoring and reporting requirements.

7. Unanticipated Environmental Impacts

23. Where unanticipated environmental impacts become apparent during project implementation, the borrower/client will update the environmental assessment and EMP or prepare a new environmental assessment and EMP to assess the potential impacts, evaluate the alternatives, and outline mitigation measures and resources to address those impacts.

8. Biodiversity Conservation and Sustainable Natural Resource Management

24. The borrower/client will assess the significance of project impacts and risks on biodiversity⁵ and natural resources as an integral part of the environmental assessment process specified in paras. 4–10. The assessment will focus on the major threats to biodiversity, which include destruction of habitat and introduction of invasive alien species, and on the use of natural resources in an unsustainable manner. The borrower/client will need to identify measures to avoid, minimize, or mitigate potentially adverse impacts and risks and, as a last resort, propose compensatory measures, such as biodiversity offsets, to achieve no net loss or a net gain of the affected biodiversity.⁶

⁵ The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

⁶ Significant conversion or degradation is (i) the elimination or severe diminution of the integrity of a habitat caused by a major, long-term change in land or water use; or (ii) the modification of a habitat that substantially

a. Modified Habitats

25. In areas of modified habitat, where the natural habitat has apparently been altered, often through the introduction of alien species of plants and animals, such as in agricultural areas, the borrower/client will exercise care to minimize any further conversion or degradation of such habitat, and will, depending on the nature and scale of the project, identify opportunities to enhance habitat and protect and conserve biodiversity as part of project operations.

b. Natural Habitats

26. In areas of natural habitat,⁷ the project will not significantly convert or degrade⁸ such habitat, unless the following conditions are met:

- (i) No alternatives are available.
- (ii) A comprehensive analysis demonstrates that the overall benefits from the project will substantially outweigh the project costs, including environmental costs.
- (iii) Any conversion or degradation is appropriately mitigated.

27. Mitigation measures will be designed to achieve at least no net loss of biodiversity. They may include a combination of actions, such as post project restoration of habitats, offset of losses through the creation or effective conservation of ecologically comparable areas that are managed for biodiversity while respecting the ongoing use of such biodiversity by Indigenous Peoples or traditional communities, and compensation to direct users of biodiversity.

c. Critical Habitats

28. No project activity will be implemented in areas of critical habitat⁹ unless the following requirements are met:

- (i) There are no measurable adverse impacts, or likelihood of such, on the critical habitat which could impair its high biodiversity value or the ability to function.
- (ii) The project is not anticipated to lead to a reduction in the population of any recognized endangered or critically endangered species¹⁰ or a loss in area of the habitat concerned such that the persistence of a viable and representative host ecosystem be compromised.
- (iii) Any lesser impacts are mitigated in accordance with para. 27.

⁷ Land and water areas where the biological communities are formed largely by native plant and animal species, and where human activity has not essentially modified the area's primary ecological functions.

⁸ Significant conversion may include, for example, land clearing; replacement of natural vegetation (for example, by crops or tree plantations); permanent flooding (by a reservoir for instance); drainage, dredging, filling, or canalization of wetlands; or surface mining.

⁹ Critical habitat is a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value, including habitat required for the survival of critically endangered or endangered species; areas having special significance for endemic or restricted-range species; sites that are critical for the survival of migratory species; areas supporting globally significant concentrations or numbers of individuals of congregatory species; areas with unique assemblages of species or that are associated with key evolutionary processes or provide key ecosystem services; and areas having biodiversity of significant social, economic, or cultural importance to local communities. Critical habitats include those areas either legally protected or officially proposed for protection, such as areas that meet the criteria of the World Conservation Union classification, the Ramsar List of Wetlands of International Importance, and the United Nations Educational, Scientific, and Cultural Organization's world natural heritage sites.

¹⁰ As defined by the World Conservation Union's Red List of Threatened Species or as defined in any national legislation.

29. When the project involves activities in a critical habitat, the borrower/client will retain qualified and experienced external experts to assist in conducting the assessment.

d. Legally Protected Areas

30. In circumstances where some project activities are located within a legally protected area, in addition to the requirement specified in para. 28, the borrower/client will meet the following requirements:

- (i) Act in a manner consistent with defined protected area management plans.
- (ii) Consult protected area sponsors and managers, local communities, and other key stakeholders on the proposed project.
- (iii) Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area.

e. Invasive Alien Species

31. The borrower/client will not intentionally introduce any new alien species (that is, species not currently established in the country or region of the project) unless carried out in accordance with the existing regulatory framework for such introduction, if such a framework is present, or unless the introduction is subject to a risk assessment (as part of the environmental assessment) to determine the potential for invasive behavior. Under no circumstances must species known to be invasive be introduced into new environments. The borrower/client will undertake assessment of the possibility of accidental or unintended introduction of such invasive alien species and identify measures to minimize the potential for release.

f. Management and Use of Renewable Natural Resources

32. Renewable natural resources will be managed in a sustainable manner. Sustainable resource management is management of the use, development, and protection of resources in a way, or at a rate, that enables people and communities, including Indigenous Peoples, to provide for their current social, economic, and cultural well-being while also sustaining the potential of those resources to meet the reasonably foreseeable needs of future generations. This includes safeguarding the life-supporting capacity of air, water, and soil ecosystems. Where possible, the borrower/client will demonstrate the sustainable management of resources through an appropriate system of independent certification.

9. Pollution Prevention and Abatement

33. During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines*.¹¹ These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in this document.

¹¹ World Bank Group, 2007. *Environmental, Health, and Safety General Guidelines*. Washington, DC.

g. Pollution Prevention, Resource Conservation, and Energy Efficiency

34. The borrower/client will avoid, or where avoidance is impossible, will minimize or control the intensity or load of pollutant emission and discharge. In addition the borrower/client will examine and incorporate in its operations resource conservation and energy efficiency measures consistent with the principles of cleaner production. When the project has the potential to constitute a significant source of emissions in an already degraded area, strategies that help improve ambient conditions, such as evaluating alternative project locations and considering emissions offsets, will be introduced.

h. Wastes

35. The borrower/client will avoid, or where avoidance is not possible, will minimize or control the generation of hazardous and nonhazardous wastes and the release of hazardous materials resulting from project activities. Where waste cannot be recovered or reused, it will be treated, destroyed, and disposed of in an environmentally sound manner. If the generated waste is considered hazardous, the client will explore reasonable alternatives for its environmentally sound disposal considering the limitations applicable to its transboundary movement.¹² When waste disposal is conducted by third parties, the borrower/client will use contractors that are reputable and legitimate enterprises licensed by the relevant regulatory agencies.

i. Hazardous Materials

36. The borrower/client will avoid the manufacture, trade, and use of hazardous substances and materials subject to international bans or phase outs because of their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer¹³ and will consider the use of less hazardous substitutes for such chemicals and materials.

j. Pesticide Use and Management

37. The environmental assessment will ascertain that any pest and/or vector management activities related to the project are based on integrated pest management approaches and aim to reduce reliance on synthetic chemical pesticides in agricultural and public health projects. The borrower/client's integrated pest/vector management program will entail coordinated use of pest and environmental information along with available pest/vector control methods, including cultural practices, biological, genetic and, as a last resort, chemical means to prevent unacceptable levels of pest damage. The health and environmental risks associated with pest management should be minimized with support, as needed, to institutional capacity development, to help regulate and monitor the distribution and use of pesticides and enhance the application of integrated pest management.

38. The borrower/client will not use products that fall in World Health Organization Recommended Classification of Pesticides by Hazard Classes Ia (extremely hazardous) and Ib (highly hazardous) or Class II (moderately hazardous), if the project host country lacks restrictions

¹² Consistent with the objectives of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes.

¹³ Consistent with the objectives of the Stockholm Convention on Persistent Organic Pollutants and the Montreal Protocol on Substances that Deplete the Ozone Layer.

on distribution and use of these chemicals, or if they are likely to be accessible to personnel without proper training, equipment, and facilities to handle, store, apply and dispose of these products properly. The borrower/client will handle, store, apply and dispose of pesticides in accordance with international good practice such as the Food and Agricultural Organization's International Code of Conduct on the Distribution and Use of Pesticides.

k. Greenhouse Gas Emissions

39. The borrower/client will promote the reduction of project-related anthropogenic greenhouse gas emissions in a manner appropriate to the nature and scale of project operations and impacts. During the development or operation of projects that are expected to or currently produce significant quantities of greenhouse gases,¹⁴ the borrower/client will quantify direct emissions from the facilities within the physical project boundary and indirect emissions associated with the off-site production of power used by the project. The borrower/client will conduct quantification and monitoring of greenhouse gas emissions annually in accordance with internationally recognized methodologies.¹⁵ In addition, the borrower/client will evaluate technically and financially feasible and cost-effective options to reduce or offset project-related greenhouse gas emissions during project design and operation, and pursue appropriate options.

10. Health and Safety

l. Occupational Health and Safety

40. The borrower/client will provide workers¹⁶ with a safe and healthy working environment, taking into account risks inherent to the particular sector and specific classes of hazards in the borrower's/client's work areas, including physical, chemical, biological, and radiological hazards. The borrower/client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work by (i) identifying and minimizing, so far as reasonably practicable, the causes of potential hazards to workers; (ii) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) providing appropriate equipment to minimize risks and requiring and enforcing its use; (iv) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment; (v) documenting and reporting occupational accidents, diseases, and incidents; and (vi) having emergency prevention, preparedness, and response arrangements in place.

41. The borrower/client will apply preventive and protective measures consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines* (footnote 7).

m. Community Health and Safety

¹⁴ Even though the significance of a project's contribution to greenhouse gas emissions varies between industry sectors, the significance threshold to be considered for these requirements is generally 100,000 tons of carbon dioxide equivalent per year for the aggregate emissions of direct sources and indirect sources associated with electricity purchased for own consumption.

¹⁵ Estimation methodologies are provided by the Intergovernmental Panel on Climate Change (IPCC), various international organizations, and relevant host country agencies.

¹⁶ Including nonemployee workers engaged by the borrower/client through contractors or other intermediaries to work on project sites or perform work directly related to the project's core functions.

42. The borrower/client will identify and assess the risks to, and potential impacts on, the safety of affected communities during the design, construction, operation, and decommissioning of the project, and will establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. These measures will favor the prevention or avoidance of risks and impacts over their minimization and reduction. Consideration will be given to potential exposure to both accidental and natural hazards, especially where the structural elements of the project are accessible to members of the affected community or where their failure could result in injury to the community. The borrower/client will avoid or minimize the exacerbation of impacts caused by natural hazards, such as landslides or floods that could result from land use changes due to project activities.

43. The borrower/client will inform affected communities of significant potential hazards in a culturally appropriate manner. The borrower/client will be prepared to respond to accidental and emergency situations. This preparation will include response planning document(s) that addresses the training, resources, responsibilities, communications, procedures, and other aspects required to respond effectively to emergencies associated with project hazards. Appropriate information about emergency preparedness and response activities, resources, and responsibilities will be disclosed to affected communities.

44. When structural elements or components, such as dams, tailings dams, or ash ponds, are situated in high-risk locations and their failure or malfunction may threaten the safety of communities, the borrower/client will engage qualified and experienced experts, separate from those responsible for project design and construction, to conduct a review as early as possible in project development and throughout project design, construction, and commissioning.

11. Physical Cultural Resources

45. The borrower/client is responsible for siting and designing the project to avoid significant damage to physical cultural resources.¹⁷ Such resources likely to be affected by the project will be identified, and qualified and experienced experts will assess the project's potential impacts on these resources using field-based surveys as an integral part of the environmental assessment process specified in paras. 4–10.

46. When a project may affect physical cultural resources, the borrower/client will consult with affected communities who use, or have used them within living memory, for long-standing cultural purposes to identify physical cultural resources of importance and to incorporate the views of the affected communities on such resources into the borrower's/client's decision-making process. Consultation will also involve relevant national or local regulatory agencies that are entrusted with protecting physical cultural resources. The findings are disclosed as part of, and in the same manner as, the environmental assessment report, except when such disclosure would compromise or jeopardize the safety or integrity of the physical cultural resources.

47. When the project is likely to have adverse impacts on physical cultural resources, the borrower/client will identify appropriate measures for avoiding or mitigating these impacts as part of the environmental planning process specified in paras. 12–16. These measures may range

¹⁷ Defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings and may be above or below ground or under water. Their cultural interest may be at the local, provincial, national, or international level.

from avoidance to full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost.

48. When the proposed location of a project is in areas where physical cultural resources are expected to be found as determined during the environmental assessment process, chance finds procedures will be included in the EMP. Chance finds shall not be disturbed until an assessment by a competent specialist is made and actions consistent with these requirements are identified.

49. The project will not remove any physical cultural resources unless the following conditions are met:

- (i) No alternatives to removal are available.
- (ii) The overall benefits of the project substantially outweigh the anticipated cultural heritage loss from removal.
- (iii) Any removal is conducted in accordance with relevant provisions of national and/or local laws, regulations, and protected area management plans and national obligations under international laws, and employs the best available techniques.